

# Project Overview and Background



Climate change is defined long-term changes in the average weather patterns or also known as a change in the state of climate that persists for an extended period, typically decades or longer. Climate change is expected to cause increase in ocean temperature, sea level rise, enhanced storm intensity with a possible change in traditional cyclone patterns, possible changes in the nature of ocean currents, acidification of the oceans and changing rainfall patterns.

The Malaysian coastal and marine environments are also impacted by the change of climate. shows the summary of threat ratings of the impacts of climate change to the conservation targets. Several significant impacts of climate change to the marine species and habitats identified are:

- Loss of coral reefs due to coral bleaching from an increase in sea surface temperature, and ocean acidification;
- Loss of nesting beaches and mangrove forest due to sea level rise, and storm surges, and
- Imbalance of marine turtle hatchling sex ratio due to increased air temperature of beaches



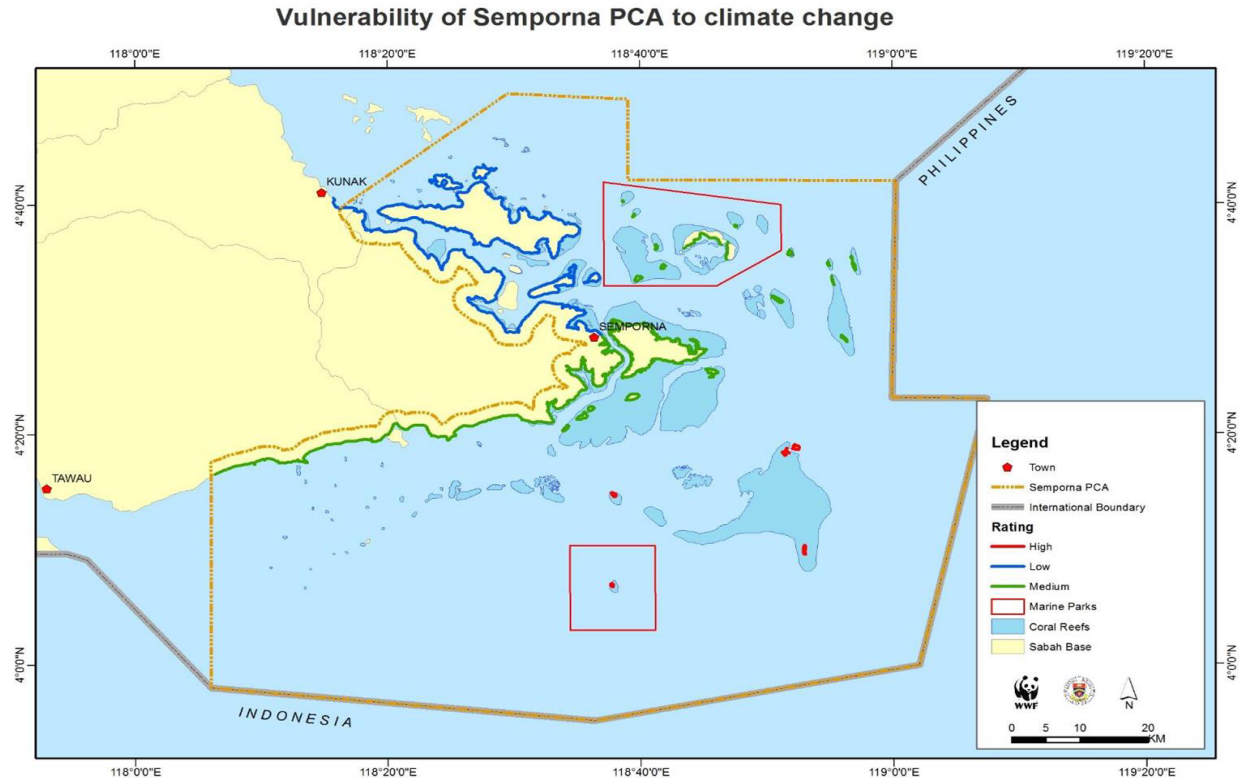
**Coastal integrity vulnerability assessment (CIVAT)** was carried out in Semporna, Lahad Datu and TMP, which identified high vulnerable coastal sites that led to the development of Local Early Action Plan for the adaptation of coastal communities in Mabul Island (Jolis & Ejria, 2015, Cheo et al., 2017; Saleh & Jolis, 2018).

# Project Overview and Study Site



**Coastal integrity vulnerability assessment (CIVAT) Continued - Mabul Island is considered highly vulnerable** in terms of **sea level rise and typhoon occurrence**. Hence, the Local Early Action Plan-Climate Change Adaptation (LEAP-CCA) has been developed by communities and government agencies to increase community resilience towards climate change. Since 2021, there are **eights climate change adaptation initiatives** implemented.

This project require support for the next 3 years to facilitate the implementation of another **4 initiatives with financial mechanism in-place**, assess the improvement of adaptive capacity/effectives of **adaptation measures** implemented in Mabul Island and sharing the outcome from the LEAP-CCA Mabul Island to state agency for **endorsement, recognized as the first marine community based climate change adaptation in Malaysia and act as a role model** for vulnerable islands in whole of Sabah.



## COASTAL INTEGRITY VULNERABILITY ASSESSMENT TOOLS

- ☐ Study in 2015, WWF-Malaysia & UMS
- ✓ Sea level rise
- ✓ Waves during monsoon
- ✓ Tides

# Seascape/Communities & Threats in Mabul

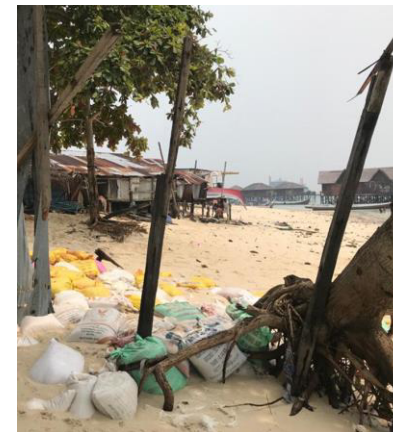


**Located in southeast of Semporna**  
Has the highest population island (~3,000).  
**Coral reefs, sea grass, sandy beaches, and various species of marine life surround the island**

Fisheries & tourism sectors are main economic resources.

**Natural resources are under stress**  
by human activities and now, climate change.

**This project involved the vulnerable communities in Mabul**  
as a role model successfully implemented the adaptation measures to  
build their resilience facing the climate change impacts in future.



- Loss of Coastal Community properties due to storm surges, intense weather, coastal erosion, and rising sea
- Possible reduced income of coastal fishermen due to loss of habitat from climate change
- Saltwater intrusion due to sea level impacting community livelihood

# Process in developing local early action plan - climate change adaptation for Mabul Island



**2015**

Vulnerability Assessment on Semporna Coastal Area



**2017**

Climate Change Education & Awareness Programme



**2019**

Step 2 Climate History Workshop



**2019**

Step 4 Developing adaptation measures workshop



**2021**

Capacity building of Mabul youths to implement climate change action



Mabul Island Selected for the LEAP-CCA Establishment

**2017**



Step 1 Establishment of LEAP-CCA Committee

**2018**



Step 3 Vulnerability Assessment Workshop

**2019**



Community Consultation Workshop

**2020**



Implementation of climate change adaptation in measures in Mabul

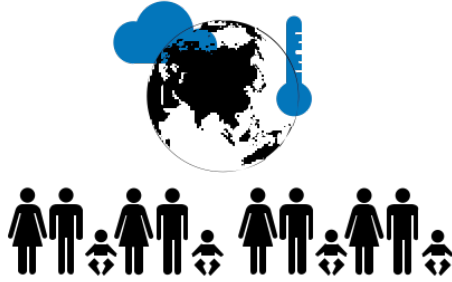
**2021**



# Expected Outcomes and Impacts



**3,000**  
communities benefited  
from the climate action  
implemented & the  
environmental resilience  
improved



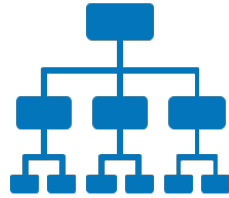
**100**  
communities involved  
actively & has been  
capacity build to  
sustain the climate  
actions



**FIRST**  
community-based  
coastal / marine  
climate action in  
Malaysia



**MABUL CLIMATE CHANGE**  
adaptation framework socialised to the state  
government and been recognised



**PUBLISH CLIMATE CHANGE  
ADAPTATION TOOLKIT**  
for Coastal Communities in Malaysia, & the  
effectiveness of Mabul study case documented



**DOCUMENTATION**  
of report on effectiveness of  
climate change adaptation in Mabul



**SUPPORT  
GOVERNMENT'S POLICY**  
& initiative in climate change  
adaptation efforts

